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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,577	10/30/2003	Hiroyuki Nagano	4635-004	7209

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EXAMINER	
SHAH, MILAP	

ART UNIT	PAPER NUMBER
3714	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/696,577	NAGANO, HIROYUKI	
	Examiner	Art Unit	
	Milap Shah	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-11,13-17 and 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-11,13-17 and 19-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to the amendment received on November 13, 2007. The Examiner acknowledges that claims 1, 11, & 19 were amended, no claims were canceled, and claim 24 was added. Therefore, claims 1, 2, 4-11, 13-17, & 19-24 are currently pending.

The Examiner has included a new grounds of rejection upon discovery of additional prior art. Therefore, this action is being made NON-FINAL to afford the Applicant the opportunity to respond to any new or updated rejections.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

> It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4-11, 13-17, & 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen et al. (U.S. Patent Application Publication No. 2004/0053699) in view of Koizumi (U.S. Patent No. 5,452,025) & Brawley, Jr. (U.S. Patent No. 7,278,513).

Claims 1, 5, 7-9, 11, 17, 19, & 24: Rasmussen et al. disclose the invention substantially as claimed including a gaming machine comprising a cabinet in which various components are housed, including a display device (figure 4[display 60]) for showing images, sound generating devices (speakers are inherently enclosed in the cabinet per disclosure of the speaker bar 40 of figure 4) integrated within the cabinet for generating sound according to the game, and sound transmitting holes (figure 4[speaker bar 40]) positioned such that sound coming from the sound generating devices exits the sound transmitting holes (figure 4[speaker bar 40]). Rasmussen et al. also disclose a door that defines a front face of the cabinet, which is openable to allow access to the interior of the cabinet (figure 4 shows the gaming machine with the door and figure 5 shows the gaming machine without the door, see also description of figures 4 & 5). The door includes openings for the display device and sound transmitting holes (sound bar 40).

Rasmussen et al. specifically lack disclosing:

(a) the sound transmitting holes are specifically positioned coelevational with the opening for the display device;

(b) sound transmitting passages extend from the sound generating devices to the sound transmitting holes;

(c) each of the sound generating devices are entirely disposed rearwardly from the screen and spaced from the respective sound transmitting holes.

(d) the specific formation or shape of the sound transmitting passage is one that has side walls in a trapezoidal shape, thereby creating differences in cross sections as the passages extend forwardly from a rear of the cabinet to the front of the cabinet where the sound transmitting holes are located. Further, as Rasmussen et al. lack this specific formation, it also lacks the sound transmitting passages having (d1) a substantially constant width and a height that increases as each of the sound transmitting passages extends

towards the respective sound transmitting holes, (d2) the length or height of the rectangular cross sections of the passage increase as each transmitting passage extends towards the respective sound transmitting holes, and (d3) each of the trapezoidal walls has a shorter and longer base (i.e. a property of being trapezoidal), wherein the longer base is disposed forward of and parallel with the shorter base (note: each of (d1)-(d3) are specific properties or characteristics of having trapezoidal side walls); and

(e) each sound generating device is coaxially fitted in the respective sound transmitting passages.

However,

Koizumi discloses a similar display device setup that is capable of being implemented in the cabinet of Rasmussen et al. Koizumi discloses a prior art display device that includes sound generating devices (figure 5[speaker 3]) being disposed to the rear of the display device setup such that fixed sound transmitting passages extend forwardly from each respective sound generating device to the respective sound transmitting holes on the front of the display setup (see at least abstract & figure 5). One of ordinary skill in the art would have been motivated to modify the gaming machine and cabinet disclosed by Rasmussen et al. with similar sound transmitting passages to propagate any game sounds in such an area that the player could easily hear the sound of the game. It is well known in the art that casinos are very noisy places with the sounds of hundreds, even thousands, of gaming machines being played, each having game sounds. Thus, it would have been desirable to direct sound via a suitable waveguide or acoustic directional horn, such that, excessive volumes from gaming machines would no longer be necessary. This display setup also explicitly teaches that the sound transmitting passages are positioned coelevational with the opening for the display device, the sound generating devices are entirely disposed rearwardly of the screen, and spaced from the respective sound transmitting holes (figure 5).

Brawley, Jr. teaches a sound transmitting passage or better known in the audio arts as a waveguide, horn, acoustic horn, trumpet or the like. Those of ordinary skill in the art would recognize the vast number of different waveguides available or known in the art (see all the cited references of record) for the purpose of increasing the efficiency of sound transmission by allowing a low volume sound to be attenuated into a higher volume sound using nothing more then a passage which increasing area allowing wave propagation. Brawley, Jr. also teaches sound waves gain kinetic energy as the air mass within the horn passes through the restrictions of the passage, where the air mass may progressively expand as a sound wave and eventually reach listeners. Further, Brawley, Jr. teaches the creation of cylindrical sound radiation via the increasing area of the horn (column 3, line 36 – column 4, line 4). This horn disclosed by Brawley, Jr. is one of an equivalent shape to Applicant's claimed shape of a sound transmitting passage that has side walls in a trapezoidal shape, thereby creating differences in cross sections as the sound passages extend forwardly. Brawley, Jr. also teach the sound generating device (figure 2[driver unit 202]) is coaxially fitted in the sound transmitting passage. Further, this horn includes the properties earlier discussed in parts (c1)-(c3) above, where the passage has a substantially constant width with an increasing height, the length or height of the rectangular cross sections of the passage increase as each transmitting passage extends towards the respective sound transmitting holes, and each of the trapezoidal walls has a shorter and longer base, wherein the longer base is disposed forward of and parallel with the shorter base. One of ordinary skill in the art would have been motivated to replace each of the sound transmitting passages of Koizumi with respective sound transmitting passages taught by Brawley, Jr. for at least the advantages that Brawley, Jr. recognizes with such a sound transmitting passage shape.

Thus, the Examiner has shown, with specific evidence, each of the claimed elements as known elements in the prior art.

Therefore, it would have required mere routine skill in the art by those of ordinary skill in the art at the time the invention was made to combine known elements to yield a predictable and expected result of a game machine having sound transmitting passages in the arrangement discussed above, with at least the added advantages and benefits disclosed by both Koizumi and Brawley, Jr. Those of ordinary skill in the art would have been motivated to combine Rasmussen et al., Koizumi, and Brawley, Jr. to produce an equivalent display setup as disclosed by Koizumi in the game machine cabinet disclosed by Rasmussen with the specific shape/formation of sound transmitting passages as taught by Brawley, Jr. for at least the following additional reasons: (1) Brawley, Jr. teaches that this specific shape of a sound transmitting passage has certain benefits (which are apparent from column 3, line 36 - column 4, line 4). The Applicant also notes similar advantages to a similar claimed shape of the sound transmitting passage, thus, it can be seen that these certain advantages are present in the prior art, and thus would not be an unexpected result of having a sound transmitting passage in that shape; (2) Koizumi discloses that the prior art set up of figure 5 has one problem of sound deterioration because of the long narrow sound transmitting passage, thus, Brawley, Jr. solve such a problem; and (3) Koizumi teaches that these types of setups accommodate the need for superior sound quality where space for accommodating a cabinet (i.e. for a TV in this case) is limited, where similar practice can be implemented in the game machine disclosed by Rasmussen et al, since it is known that reducing the space taken up by a gaming machine on the casino floor results in increased revenue as more and more gaming machines can be deployed as the size of these gaming machines decreases over time.

Therefore, for at least the reasons given, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to modify Rasmussen et al. with the teaches of Koizumi & Brawley, Jr. to obtain the invention as specified in at least claims 1, 5, 7-9, 11, 17, 19, & 24 as described in this section.

Claim 2: In the implementation of the combination disclosed above, it can be seen obvious that the sound transmitting holes on the front of the cabinet door are to be reformed to be the shape of the sound transmitting passage disclosed by Brawley, Jr., which is seen to be vertically elongated (figure 2 of Brawley, Jr.). The combination also provides for having sound transmitting sections on either side of the opening on the front face of the cabinet.

Claim 4: The sound transmitting passages must be fixed to the cabinet in one way shape or form, as it can be seen that the passages cannot merely float in mid air.

Claim 6: The combination as discussed above discloses the rectangular cross sections of the sound transmitting passages to be elongated in the vertical direction as seen by the shape of the sound transmitting passage disclosed by Brawley, Jr. (figure 2).

Claim 10: Brawley, Jr. clearly discloses the sound transmitting passages have a top and bottom wall, which are connected by left and side trapezoidal walls as discussed above (figure 2 of Brawley, Jr.)

Claim 13: To further discussion above, it can be seen that the shorter bases of the trapezoidal side walls define an inlet for where the sound from the sound generating device enters or begins and the longer bases of the trapezoidal walls define the outlet where the sound eventually exits.

Claim 14: Brawley, Jr. discloses the walls are formed integrally all together (figure 2).

Claims 15 & 20: Brawley, Jr. discloses the sound generating device is disposed at the inlet of the passage and disposed entirely rearwardly from the sound transmitting holes (figure 2).

Claim 16: This limitation is discussed above with respect to at least claim 1.

Claim 21: In the combination discussed above, the implementation of the sound transmitting passage disclosed by Brawley, Jr. would result in the passages being substantially parallel to each other throughout their entireties thereof from the respective sound generating devices to the respective sound generating holes.

Claims 22 & 23: In the combination discussed above, the implementation of the sound transmitting passage disclosed by Brawley, Jr. would result in the left and right side walls of each of the sound transmitting passages being substantially parallel to each other throughout their entireties from the respective sound generating devices to the respective sound generating holes.

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 4-11, 13-17, & 19-24 have been considered but are moot in view of the new ground(s) of rejection.

The Examiner additionally notes that the Applicant has again asked for the Examiner's "legal authority" in making obviousness rationales. The Examiner respectfully submits that the Examiners "legal authority" is 35 U.S.C. 103 and the fact that the Examiner is specifically a *patent* Examiner who is examining the Applicant's patent application. No other "legal authority" is needed for presenting an obviousness rejection. Thus, if the Applicant is looking for any further "legal authority", the Applicant is invited to telephone the Examiner's supervisory patent examiner (telephone number listed below). However, the Examiner's response to Applicant's comment is commensurate with a discussion with the Examiner's supervisory patent examiner. See also MPEP 701, which discusses the statutory authority for examination, where The Director delegates patent examination to Patent Examiners.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the "Notice of Cited References" attached, which includes additional references showing examples of similar waveguides, acoustic horns, and the like similar to Brawley, Jr. These sound transmitting passages in all sorts of shapes, sizes, and arrangements are considered well known in the art. The Examiner has limited the number of references to those specifically applicable to the claimed shape/formation.

However, upon request, the Examiner is able to cite many more references teaching a vast range of different waveguides, horns, sound transmitting passages, and the like.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Milap Shah whose telephone number is (571) 272-1723. The examiner can normally be reached on M-F: 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/MBS/